Heat Map Clues

Use nearby words to uncover precise meanings.

ELA.8.V.1 "Finding Meaning"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle the words relentless, radiate, refuge, and mitigate. Underline the nearby words that help you figure out each word's meaning.

Why Cities Stay Hot

1 On a hot July afternoon, pavement in many cities can reach temperatures far above the air. Dark roofs and roads absorb sunlight instead of reflecting it. Later, they radiate that stored heat back into the neighborhood. This effect, called an urban heat island, makes evenings feel relentless, or unending. Trees, parks, and light-colored roofs can lower surface temperatures by providing shade and reflecting more sunlight. They also make sidewalks more comfortable for people walking home safely.

2 City planners study heat maps to find blocks where residents face the greatest risk. A neighborhood with few trees may offer little refuge, meaning little protection from heat. In those places, officials may plant trees near bus stops, paint roofs white, or replace some asphalt with cooler materials. These steps can mitigate the problem, or make its harmful effects less severe. They are especially useful for older adults and young children who may struggle during high temperatures.

3 Not every solution costs the same amount. Creating a small shaded plaza may be cheaper than rebuilding an entire street, but both can help. When people have cooler places to wait, walk, and gather, a neighborhood becomes more livable. The goal is not to eliminate summer heat, but to reduce its burden on people and energy systems. By combining several strategies, cities can make heat waves less dangerous and protect public health during long hot spells.

2 ANSWER WITH EVIDENCE

Use the passage

1. In paragraph 1, what does relentless mean? Which words in the paragraph help you know?

2. What does radiate mean as it is used in paragraph 1?

3. What does refuge mean in paragraph 2?

4. What does mitigate mean in paragraph 2?

3 YOUR TURN

Your own words

Write exactly two sentences about a weather problem at school or in your community. Use one precise word that a reader might not know, and include context clues that make the word's meaning clear.

ANSWER KEY

Heat Map Clues

GRADE 8 · ELA.8.V.1

PART 1 · READ AND MARK

Circle the words relentless, radiate, refuge, and mitigate. Underline the nearby words that help you figure out each word's meaning. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	In paragraph 1, what does relentless mean? Which words in the paragraph help you know?	**Relentless means unending. The paragraph directly says, "or unending."**
2	What does radiate mean as it is used in paragraph 1?	**Radiate means give off or send out heat. The roads and roofs send stored heat back into the neighborhood.**
3	What does refuge mean in paragraph 2?	**Refuge means a place or source of protection from heat. The paragraph explains it as "little protection from heat."**
4	What does mitigate mean in paragraph 2?	**Mitigate means reduce or make less severe. The paragraph says the steps make harmful effects less severe.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

During the drought, our school tried to conserve water by fixing dripping fountains and turning off sprinklers after rain. To conserve means to use less of a resource so it will last longer.

Accept equivalent meanings when students support them with nearby words from the passage. For Part 3, accept any two-sentence response that uses a precise word and provides clear context clues or a definition for that word.